# REMARKS

Reconsideration of this application as amended is respectfully requested.

In the Office Action, claims 1-67 are pending. Claims 1-22, 24-28 and 30-67 stand rejected. Claims 23 and 29 are objected to. In this response, claims 1, 5, 16, 22-23, 28-29, 34, 37-38, 49, 55 and 61 have been amended. New claim 68 has been added. No claims have been canceled. Thus, claims 1-68 remain pending. Support for the amendments can be found throughout the specifications as filed. No new matter has been added. Applicant reserves all rights with respect to the applicability of the Doctrine of Equivalents.

## Rejections

### *Rejections under 35 U.S.C. § 101*
### Claim **1-15 and 34-48**

Claims 1-15 and 34-48 stand rejected under 35 U.S.C. §101 because the claimed invention is allegedly directed to non-statutory subject matter. In view of the foregoing amendments, Applicant respectfully submits that claims 1-15 and 34-48, as amended, are now directed to statutory subject matter in compliance with the requirements of 35 U.S.C. §101. Withdrawal of the rejection is respectfully requested.

### *Rejections under 35 U.S.C. § 102*
### Claim **1-4, 16-17, 22 and 28**

Claims 1-4, 16-17, 22 and 28 stand rejected under 35 U.S.C. §102(b) as being anticipated by US Patent No. 6,151,410 to N. Kuwata et al. (hereinafter "Kuwata"). However, Applicant respectfully submits that Applicant's claims 1-4, 16-17, 22 and 28, as amended, are not anticipated by Kuwata.

Specifically, for example, independent claim 1, as amended, includes the limitations:

> "<u>selecting one or more regions</u> from the image;
> <u>determining one or more averages</u> of a color channel for the image
>> <u>corresponding to the one or more regions</u>, the determining <u>excluding one or more first pixels of the image</u>, each of the one or more first pixels being one of:
>> a) <u>substantially white</u>, and

b) substantially black; and
scaling color signals o f the color channel for second pixels of the image
<u>according to the one or more averages</u>, each of the second pixels being
not one of:
a) substantially white, and
b) substantially black"

(emphasis added)

Applicant respectfully submits that Kuwata fails to disclose the limitation of selecting one or more regions from an image to determine one or more averages corresponding to the one or more regions by excluding one or more pixels to scale color signals according to the one or more averages.

Rather, Kuwata teaches an image processing system to correct an image with poor color reproducibility caused by a color slippage (Kuwata, col. 19, lines 8-10). The image processing in Kuwata comprises detecting a picture-element-count distribution of each color component, judging the degree of analogy among picture-element-count distributions of color components, identifying slippages among color components from the picture-element-count distributions, identifying slippages in degree of contrast among color components from the picture-element-count distributions, identifying slippages in brightness among color components from the picture element-element-count distributions, correcting the color and changing the resolution (Kuwata, col. 19, lines 27-48). Kuwata also discloses finding picure-element-count distribution by adopting a thinning technique based on a sampling-period ratio (Kuwata, col. 21, lines 58-61). According to Kuwata, a sampling period ratio is a ratio of the total number of picture elements to the number of picture elements to be sampled, that is, only one of the number of picture elements is taken as a sample (Kuwata, col. 21, lines 1-4). Additionally, Kuwata judges whether or not a frame exists on the circumference of an image based on the picture-element-distribution of each color component (Kuwata, col. 25, lines 38-45). However, Kuwata is completely silent about selecting one or more regions from an image to determine one or more averages corresponding to the one or more regions by excluding one or more pixels to scale color signals according to the one or more averages.

Office Action states that "a median is an average" (Office Action, page 3). It appears that Office Action alleges a "median" can be interpreted as an "average". However, Applicant respectfully disagrees. Rather, an average is related to arithmetic mean of a set of numbers. A median, on the other hand, is associated with something occupying a position or having a

condition midway between extremes. They clearly refer to two distinct and different aspects of a set of entities.

In order to anticipate a claim, each and every limitation of the claim must be taught by the cited reference. It is respectfully submitted that Kuwata fails to disclose the limitations set forth above. Therefore, it is respectfully submitted that independent claim 1, as amended, is not anticipated by Kuwata.

Independent claims 16, 22 and 28, as amended, include similar limitations as noted above. Therefore, for at least the similar reasons as discussed above, it is respectfully submitted that independent claims 16, 22 and 28, as amended, are not anticipated by Kuwata.

Given that claims 2-4 and 17 depend from and include all limitations of one of independent claims 1 and 16, as amended, Applicant respectfully submits that claims 2-4 and 17 are not anticipated by Kuwata.

### *Rejections under 35 U.S.C. § 103(a)*

### Claims **1-4, 6-22, 24-28, 30-37 and 39-67**

Claims 1-4, 6-22, 24-28, 30-37 and 39-67 stand rejected under 35 U.S.C. §103(a) as being unpatentable over US Patent No. 5, 294,989 to Moore et al. (hereinafter "Moore") in view of US Patent No. 7,057,768 B2, to Zaklika et al. (hereinafter "Zaklika"). Applicant hereby reserves the right to swear behind Zaklika at a later date. However, Applicant respectfully submits that Applicant's claims 1-4, 6-22, 24-28, 30-37 and 39-67, as amended, are patentable over the cited references.

Specifically, independent claims 1, 16, 22, 28, 34, 49, 55 and 61, as amended, include similar limitations as noted above. It is respectfully submitted that neither Moor nor Zaklika, individually or in combination, disclose or suggest the above noted limitations.

Rather, Moore provides a technique to process a color image by forming differently scaled masks, each of which is related to a spectral component of the image, and forming a composite image by subtracting the masks from the image (Moore, Abstract). According to Moore, color consistency is achieved by determining a spatially extended and weighted averaged estimate of spectral content <u>for each pixel in each of the three color channels</u> and

removing the resultant composite (Moore, col. 10, lines 19-30, emphasis added). Moore also discloses applying a non-linear scaling correction to an image before color correction (Moore, col. 10, lines 50-60, Fig. 4). In particular, Moore discusses applying a logarithmic scaler to an image before a subtractor subtracting the smoothed image mask from the original image (Moore, col. 22, lines 45-55). Thus, in Moore, color correction is performed through subtracting color signals based on a spectral content estimate for each pixel and a non-linear scaling for the entire image. However, nowhere does Moore disclose or suggest selecting one or more regions from an image to scale color signals according to the one or more averages.

Zaklika, on the other hand, discloses a method of color correction for digital image (Zaklika, col. 3, lines 45-46). Zaklika teaches a process performed for a color on an image including forming a histogram of pixels in the image data based on the largest of the color values at a pixel; determining a number of pixels based on a specific fraction of the area under the histogram to compute a dark average (color) value for this number of pixels; selecting the smallest dark average for each color as a dark reference point; specifying a dark clip limit value based on a fraction of image pixels (according to the histogram); and constructing a linear look-up table to modify the color values of the image for displacing the dark average value towards the dark reference (Zaklika, col. 4, line 61 – col. 6, line 14, Fig. 1). Thus, Zaklika's average color value is computed based on a selected number of pixels from an area of a histogram of pixels in an image region, which clearly does not correspond to an image region. Zaklika also states that Zaklika's color correction may be applied to only a portion of the image pixels either with respect to an analysis used to derive the means of correction and/or with respect to the regions of the image that undergo the correction (Zaklika, col. 4, lines 34). However, Zaklika does not teach or suggest selecting one or more regions from an image to determine one or more averages corresponding to the one or more regions by excluding one or more pixels to scale color signals according to the one or more averages.

Additionally, independent claims 1, 16, 22, 28, 34, 49, 55 and 61, as amended, include the limitations of scaling color signals according to averages determined by excluding one or more substantially white and substantially black pixels. Applicant respectfully submit that neither Moore nor Zaklika teach or suggest the noted limitations.

Instead, Moore teaches an average value for each point in an image is formed in accordance with a weighted spatial average (Moore, col. 8, lines 54-56). Moore specifically

states that an intensity of color at a node will be estimated from a spatially weighted average at <u>all other nodes</u>. (Moore, col. 8, lines 58-60). Apparently, no nodes are excluded for a weighted average in Moore. Thus, not only does Moore not disclose or suggest scaling color signals according to averages determined by excluding one or more pixels, Moore teaches away from excluding any pixels.

Zaklika, on the other hand, provides computing an average based on a number of <u>lightest</u> (or <u>darkest</u>) pixels (Zaklika, col. 5, lines 7-20). Thus, Zaklika selects lightest and darkest pixels to determine averages instead of excluding substantially white and substantially black pixels. Zaklika also discloses defining a light (or dark) clip limit value to modify color values not clipped (Zaklika, col. 5, 25-54). Therefore, Zaklika clips colors to select pixels for modifying color values instead of determining an average. Nowhere does Zakilka teach or suggest scaling color signals according to averages determined by excluding one or more substantially white and substantially black pixels

Furthermore, Zaklika's techniques include forming a histogram for each color and constructing a lookup table to modify the color values in the image (Zaklika, col. 4, line 66-col. 5, line 54). Thus, Zaklika requires point by point color correction. However, Moore explicitly states that a conventional algorithm implementation for color correction requiring point by point color correction are not convenient for common use even during post processing. Therefore, Zaklika and Moore teaches away from each other.

As such, not only do Moore and Zaklika not disclose, individually or in combination, the above noted limitations, but the references, considered as a whole, do not suggest the desirability and thus the obviousness of making the combination. It would be impermissible hindsight to combine Moore and Zaklika based on Applicant's own disclosure.

Even if they were combined, such combination still lacks the limitations of selecting one or more regions from an image to determine one or more averages corresponding to the one or more regions by excluding one or more pixels to scale color signals according to the one or more averages, and such combination also lacks the limitations of scaling color signals according to averages determined by excluding one or more substantially white and substantially black pixels.

Therefore, Applicant respectfully submits that independent claims 1, 16, 22, 28, 34, 49, 55 and 61, as amended, are patentable over Moore in view of Zaklika.

Given that claims 2-4, 6-15, 17-21, 24-27, 30-33, 35-37, 39-48, 50-54, 56-60 and 62-67, as amended, depend from and include all limitations of one of independent claims 1, 16, 22, 28, 34, 49, 55 and 61, as amended, Applicant respectfully submits that claims 2-4, 6-15, 17-21, 24-27, 30-33, 35-37, 39-48, 50-54, 56-60 and 62-67, as amended, are patentable over Moore in view of Zaklika under 35 U.S.C. §103(a).

## Allowable Subject Matter

### Claims 5 and 38

Applicant notes with appreciation the Examiner's recognition that claims 5 and 38 would be allowable if rewritten to overcome the rejection under 35 U.S.C. 101 and to include all of the limitations of the base claim and any intervening claims. In view of foregoing amendments, Applicant respectfully asserts that claims 5 and 38, as amended, are now allowable.

### Claims 23 and 39

Applicant further notes with appreciation that the Examiner has objected to claims 23 and 29 as being dependent upon a rejected based claim but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. In view of foregoing amendments, Applicant respectfully asserts that claims 23 and 29, as amended, are now allowable

### New claim 68

New claim 68 includes the limitations of scaling color signals according to averages determined by excluding one or more substantially white and substantially black pixels. For reasons similar to those discussed above, it is respectively submitted that new claim 68 is allowable.
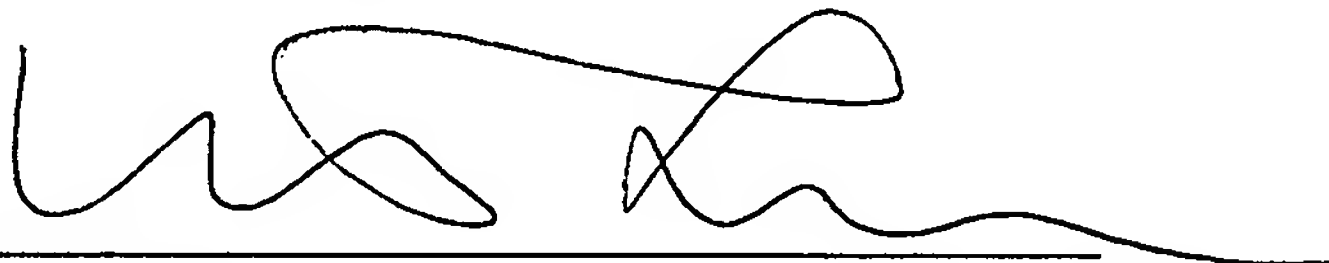
## CONCLUSION

In view of the foregoing, applicant respectfully submits that all applicable objections and rejections have been overcome.

Please charge Deposit Account No. 02-2666 for any shortage of fees in connection with this response.

Respectfully submitted,

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